

**REMARKS**

Applicants respectfully request reconsideration and allowance of the pending claims.

**A. Status of the Claims**

Prior to this Amendment C, claims 26-43 were pending. In this Amendment C, claims 26 and 29 have been amended, while claims 27, 28 and 35-43 have been canceled and claims 44-47 have been added. Accordingly, claims 26, 29-34 and 44-47 are now pending.

Claim 26 has been amended to remove the reference to the foaming agent. Additionally, claim 26 has been amended to add a reference to the thickness of the sheet. Support for the latter amendment may be found in the published application (publication no. 2002/0125594) at, for example, paragraph [0013].

Claim 29 has been amended simply to correct the claim dependency therein, in view of the cancellation of claim 27.

Support for the claims added by this Amendment C may be found in the published application (publication no. 2002/0125594), for example, as follows: (i) claim 44 (paragraph [0042]); (ii) claims 45 and 46 (paragraph [0026]); and, (iii) claim 47 (paragraph [0027]).

It is to be noted that Applicants respectfully reserve the right to pursue the subject matter of any claim canceled herein during the pendency of the present application.

## B. Claim Rejections Under 35 U.S.C. §112, Second Paragraph

Applicants respectfully submit that the rejection under 35 U.S.C. §112, second paragraph has now been rendered moot, in view of the amendment to claim 26 to remove any reference therein to a "foaming agent" and the cancellation of claims 35-43.

## C. Claim Rejections Under 35 U.S.C. §103(a)

Reconsideration is respectfully requested of the rejection of claims 26 and 29-34 as being obvious in view of Waki et al. (U.S. Patent No. 4,800,214).

### 1. The Claimed Subject Matter

Claim 26, from which all other pending claims depend, is directed to a synthetic wood-like sheet that comprises about 70 to about 100 parts by weight vinyl chloride resin and about 10 to about 100 parts by weight of a natural cellulosic product. Additionally, the wood-like sheet has a **Shore D hardness of about 55 to about 70**, as measured according to ASTM 2240, a density between about 0.45 g/cm<sup>3</sup> and about 0.95 g/cm<sup>3</sup>, and a **thickness of greater than about 5 mm**.

The claimed wood-like sheet is prepared by first mixing the various components thereof in a hot mixer (see, e.g., paragraphs [0031-32] of the published application). Once sufficiently formed, this mixture is discharged into a cold mixer, in order to avoid the formation of clumps or agglomerates of the mixture, and/or degradation of the various components of the mixture (see, e.g., paragraph [0032]). The mixture is then transferred from the cold mixer to the extrusion hopper of the extrusion die assembly of, for example, a screw extruder (see, e.g., paragraph [0033-34]). The mixture, now a plastified and melted thermoplastic mass, is then extruded through a die head and die lip assembly at the end of the extruder to form a sheet.

In one particular embodiment, the surfaces of the hot, extruded sheet is then **immediately quenched**, or cooled, by a pre-calibrator of a calibration system that is intimately attached to the die assembly (see, e.g., paragraphs [0013] and [0036]). The pre-calibrator is cooled by a cooling medium to control the temperature thereof in the range of about 15 to about 60°C. The pre-calibrator is immediately followed by a smooth calibrator, which is also cooled to a temperature in the range of about 15 to about 60°C. Notably, since the surfaces, or skins, of the sheet are **quenched and solidified immediately** after exiting the die, the gas dissolved in the thermoplastic mass does not have time to separate from the thermoplastic mass to form bubbles at the surface (see, e.g., paragraphs [0013] and [0037]). The resulting extruded sheet has smooth and solid surfaces, or skins, a **hardness of about 55 to about 70**, a low density between about 0.45 g/cm<sup>3</sup> and about 0.95 g/cm<sup>3</sup>, and preferably a **thickness of greater than about 5 mm** (see paragraph [0013]).

## 2. The Claimed Subject Matter is Not Obvious in view of Waki et al.

The Office asserts that Waki et al. disclose or suggest the basic claimed synthetic sheet or plate, in spite of the fact that **they make not reference to the hardness** of the material prepared therein. More specifically, the Office asserts:

the hardness of the sheet or plate produced by Waki et al. is inherently within the claimed ranges, based on the compositions shaped by Waki et al. **and the specific process steps** conducted. (See the present Office action at the bottom of page 2 and top of page 3. Emphasis added.)

Applicants respectfully disagree with the Office's assertion that the sheet or plate disclosed by Waki et al. would inherently possess the claimed hardness because it has the same composition and is prepared using the same process steps. In particular, Applicants respectfully submit that the sheet or plate prepared by Waki et al. **is not** prepared using the same process step, because **they provide no details relating to**

**how the extruded material is cooled upon exiting the extrusion die** (see, e.g., column 10, line 57 to column 11, line 2, as well as the Examples). As noted above, the cooling step is at least partially responsible for the resulting hardness of the claimed sheet.

With respect to an inherency rejection, Applicants respectfully point out that the Federal Circuit has stated the following:

The fact that a certain result or characteristic **may** occur or be present in the prior art is **not sufficient** to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). (Emphasis added.)

To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is **necessarily present** in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, **may not be established by probabilities or possibilities**. The mere fact that a certain thing **may** result from a given set of circumstances is not sufficient.' *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (Emphasis added.)

In view of the foregoing, Applicants respectfully submit that the Office's rejection is **improper**. The disclosure provided by Waki et al. simply does not "make clear" that the missing descriptive material (i.e., the hardness of the disclosed sheet or plate) is "necessarily present" because, at a minimum, they provide no details relating to the cooling of the extruded sheet or plate as it exits the extrusion die. Accordingly, **the claimed hardness cannot be inherent** in the sheet or plate disclosed by Waki et al., because it is simply not "necessarily present" therein.

Applicants additionally, or alternatively, submit that the Office has failed to establish a *prima facie* case of obviousness because, at a minimum, Waki et al. fail to disclose or suggest all of the limitations of the rejected claims.<sup>1</sup> Specifically, this reference fails to disclose or suggest a sheet having the recited composition and density, **as well as** the recited hardness **and** thickness. As noted above, Waki et al. make **no reference** to the hardness of their sheet or plate. Additionally, they make only a single reference to thickness, and **no reference** to a sheet having a thickness of greater than about 5 mm.<sup>2</sup> As a result, Waki et al. also provide **no motivation** to prepare a sheet having the claimed combination of hardness and minimum thickness.

In view of the foregoing, Applicants respectfully submit claim 26, as well as claims 29-34 and 44-47 depending therefrom, are patentable over the cited reference. These dependent claims are further submitted as patentable over Waki et al. for the additional limitations present therein. More specifically:

- (a) Claims 29, 31, 32 and 44 are submitted as patentable over Waki et al. because they fail to disclose or suggest a sheet having the recited composition, density and hardness, as well as a **thickness** as recited in these claims.
- (b) Claim 30 is submitted as patentable over Waki et al. because they make **no reference** to the **shrinkage** properties of the sheet or plate disclosed therein. In view of the differences in processing steps (as detailed above), it is also **improper to conclude that this property is inherent** in the disclosed sheet or

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<sup>1</sup> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. And third, the prior art reference must disclose or suggest all the claim limitations. MPEP §2142. With respect to the first of the three noted criteria, MPEP §2142 further states that, to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention, or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to be obvious.

<sup>2</sup> See the Examples at column 12, line 58.

plate, because there is simply no reason to conclude it is "necessarily present" therein.

- (c) Claim 45 is submitted as patentable over the cited reference because Waki et al. fail to disclose or suggest a sheet or plate that comprises wood particles having a sieve size of less than 30 mesh.
- (d) Claim 46 is submitted as patentable over the cited reference because Waki et al. fail to disclose or suggest a sheet or plate that comprises wood particles having a sieve size of less than 30 mesh, **and** a bulk density of about 0.08 to about 0.4 g/cm<sup>3</sup>.
- (e) Claim 47 is submitted as patentable over the cited reference because Waki et al. fail to disclose or suggest a sheet or plate that comprises wood particles having a sieve size of less than 30 mesh, a bulk density of about 0.08 to about 0.4 g/cm<sup>3</sup>, **and** a moisture content of less than about 80 weight percent.

Accordingly, reconsideration of the present rejection is requested.

**CONCLUSION**

In view of the foregoing, Applicants respectfully request reconsideration and allowance of the pending claims.

Applicants do not believe that a fee is due in connection with this response. If, however, the Commissioner determines that a fee is due, he is authorized to charge Deposit Account No. 19-1345.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Derick Allen". The signature is fluid and cursive, with the first name "Derick" being more prominent than the last name "Allen".

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